

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number  
**WO 2004/027769 A1**

(51) International Patent Classification<sup>7</sup>: **G11B 7/135**,  
7/125, G02B 26/02

(21) International Application Number:  
PCT/IB2003/003935

(22) International Filing Date:  
12 September 2003 (12.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
02078939.2 19 September 2002 (19.09.2002) EP  
02080016.5 29 November 2002 (29.11.2002) EP

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TUKKER, Teunis, W.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **HENDRIKS, Bernardus, H., W.** [NL/NL];

c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **LIEDENBAUM, Coen, T., H., F.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **KUIPER, Stein** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

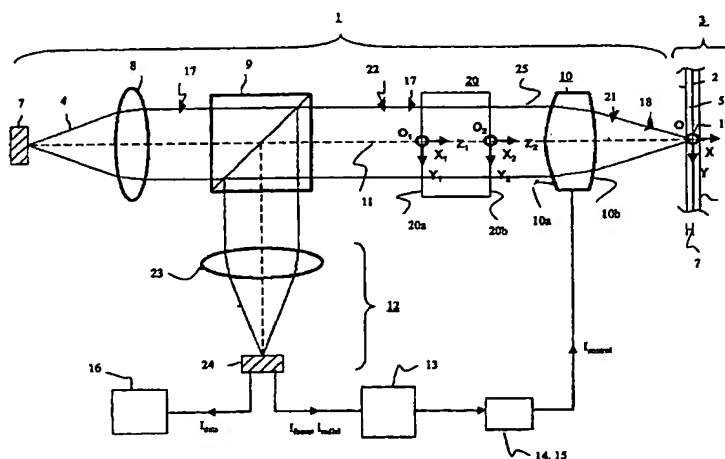
(74) Agent: **VISSER, Derk**; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: OPTICAL SCANNING DEVICE



(57) Abstract: An optical scanning device (1) for scanning an information layer (2) with a radiation beam (25) in a writing mode and a reading mode comprises a radiation source (7) for emitting the beam and an objective lens (10) for converging the beam so as to form a scanning spot (19) in the information layer. The device also includes a scanning spot power switch (20) for switching the size of the cross-section of the beam between a first size at the writing mode and a second, larger size at the reading mode so as to switch the rim intensity of the beam between a first intensity level (Irim, writing) at the writing mode and a second, higher intensity level (Irim, reading) at the reading mode, thereby switching the light power of the scanning spot between a first power level (Pwriting) at the writing mode and a second, lower power level (Preading) at the reading mode.